

**Green Building Conference
Abu Dhabi
November 2008**

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Silk Tree International
November 2008**

Observations of a Tree Hugger

Green Building Conference

“Estidama, which means ‘sustainability’ in Arabic aims to ensure sustainable design, operation and maintenance of all types of buildings and communities. It is a reflection of the values and ideals of the nation”



- **50% of the world population now live in Cities...this % is growing**
- **Housing the growing urban population is a major issue**
- **This leads to the need to develop communities**
- **Population growth – economic growth – development growth (PED)**

1965 - Population 145,091
1995 – Population 2,176,370
2008 - Population 4,600,000

(2.1 times in 13 years)
(31 times in 33 years)

- Investment in real estate in Dubai in mid-2006 stood at US\$44.95 billion up from Dh11 billion (US\$3 billion) in 2000.
- Between 2000 and 2005 the number of residential buildings in Dubai increased by more than 42 per cent, to 79,000 buildings from 56,000.
- The number of residential units, meanwhile, surged 63 per cent over the five years to about 238,000 at the end of 2005.

FACT

- Population, Economic and Development (PED) growth needs natural resources...this growth takes from the environmental
- The by-product of PED growth...goes back to the environment
- PED trends grow exponentially
- Environmental resources diminish
- Therefore we need sustainable societies, sustainable developments, sustainable buildings

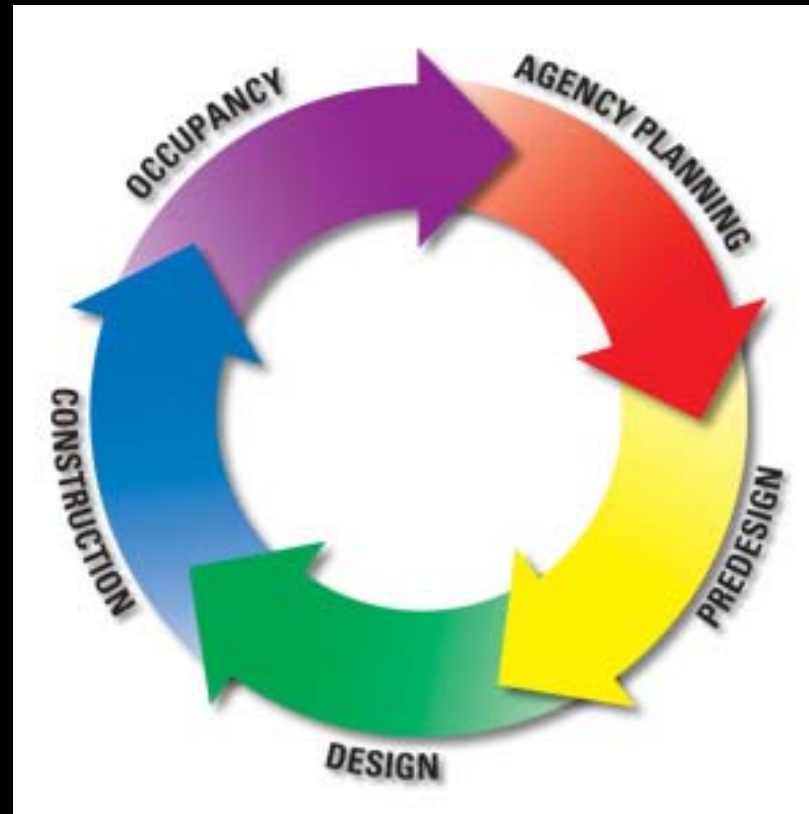
Sustainable Design
The 3 E's

Environmental & Ecological
Ethnic & Social
Economic & Financial



We are shaped by
Environment & Ecology
Ethnicity and Society
Economy & Finances

Green Wheel



Its not just about “Green Buildings”

Its about

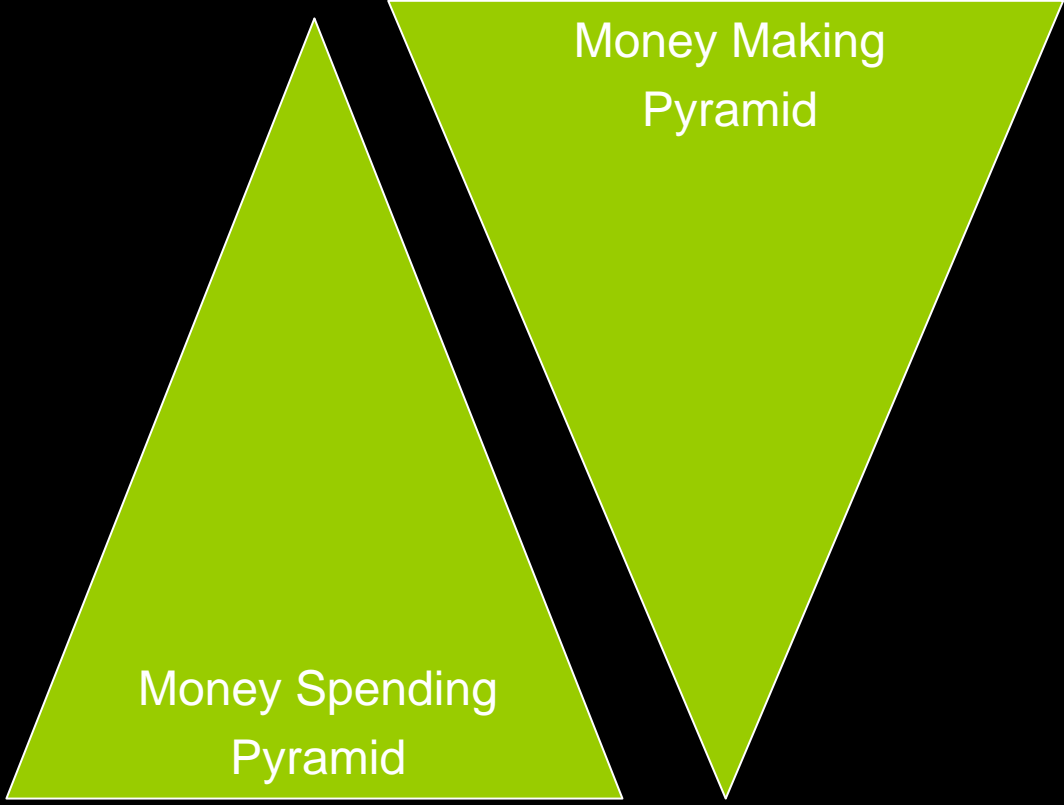
Low Impact Development & Sustainable Development

And ownership

Green Food Chain – The problem

Developers
Short Term Speculators

Owners
Long Term
Ownership



“ Profit ”

“ Green ”

Places are for people
not cars



Places are for people not boxes



Sustainable ?



Sustainable ?



Sustainable ?



Master Plan Considerations

- Mass transit, bus, light rail
- Community infrastructure that reduces vehicle miles travelled
- Local health and social services
- Walkable options for recreation and light shopping needs
- Accessible bike paths, etc
- Long-term sustainability goals
- Efficient land use
- Development of landscape systems
- Mutual stakeholder commitment
- Green Highways
- Green Infrastructure Projects

Good Master Plans and Landscapes can provide

- Climate amelioration
- Improved quality of life
- Cheaper Long Term Running costs

Good Landscapes can reduce

- Air-conditioning energy consumption
- Water consumption

Reference Projects



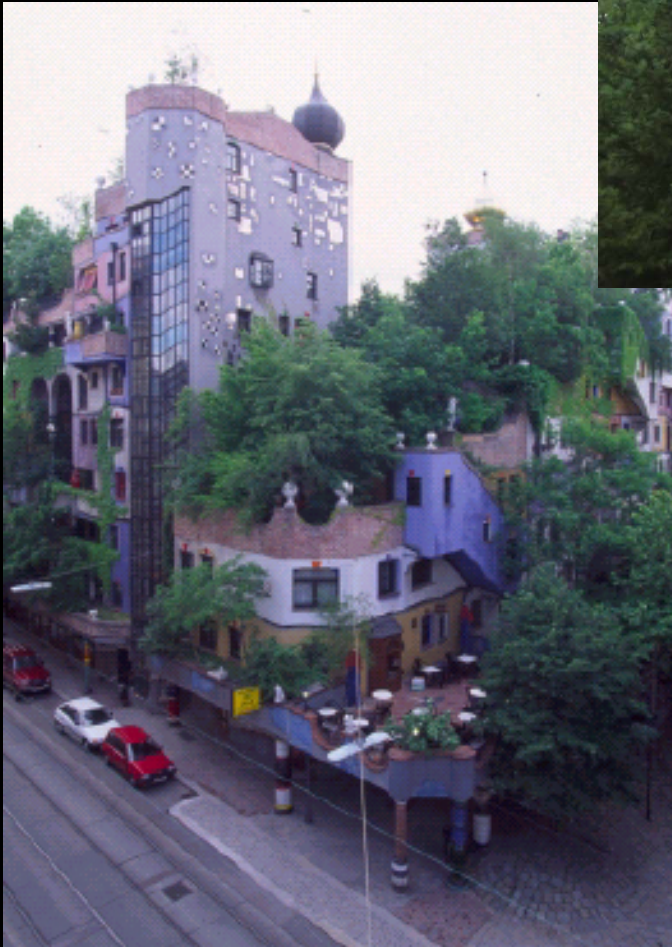
Reference Projects



Green Roofs

- Cool in the summer and insulated in the winter
- Save money by reducing land area needed for stormwater management practices
- Extend the life of a roof by reducing wear and tear caused by temperature related expansion and contraction and protects the roof from ultraviolet (UV) radiation

Green Roofs



Irrigation

A typical 20 Hectares site uses:

- 4,950 m³ per day
- Potable 34,650 Dhs/day
- STP (Grade c) 11,700 Dhs/day

- Potable 12,647,250 Dhs/year
- STP (Grade c) 4,270,500 Dhs/year

Waste not want not

Truths

- We are raising temperatures through building
- No drainage systems are integrated with irrigation systems
- All plants are overwatered
- All plants are planted at the wrong densities
- Majority of plant species are inappropriate
- Palms and grass are the major water problems
- % ratio hardscape/softscape is too high

Hot Sinks



Its all about densities



Its all about densities



Its all about densities

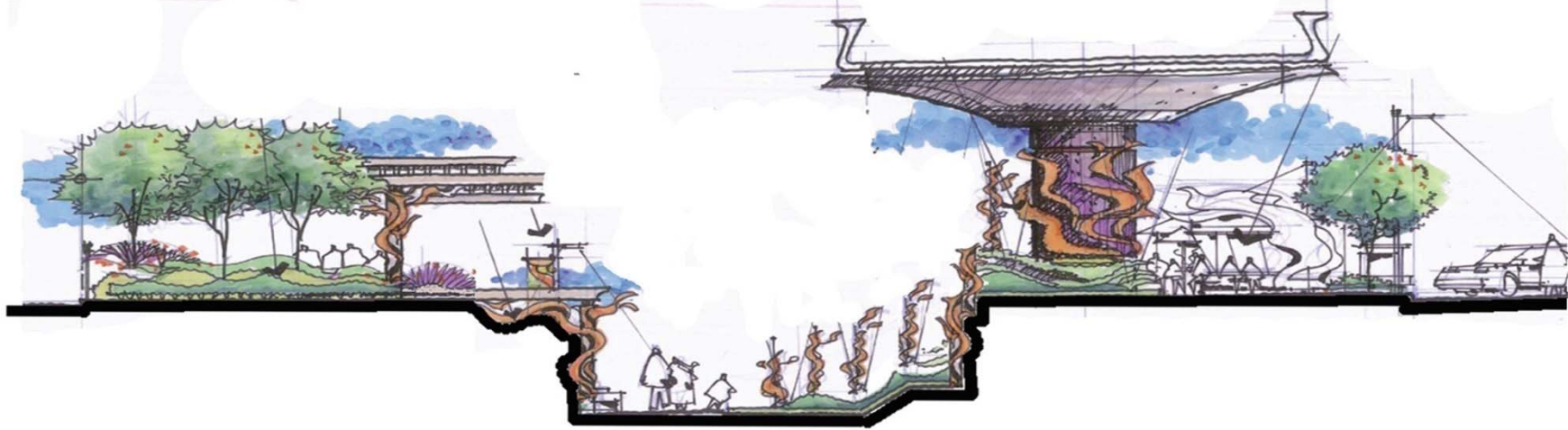


Its all about densities

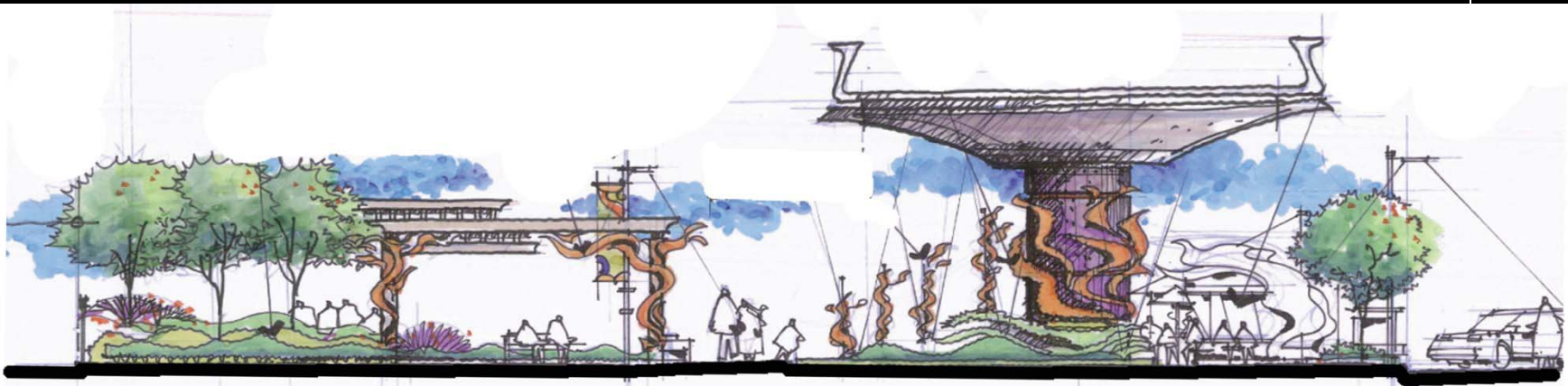


Its all about densities





Shade	High		High	High
Softscape	80%		0%	50%
Hardscape	20%		100%	50%
Temp. C°	35	40	35	45
Comfort	High		High	High



Shade	High		Low	High
Softscape	80%		0%	50%
Hardscape	20%		100%	50%
Temp. C°	35	40	45	45
Comfort	High		Low	High

Money doesn't grow on trees



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“ We are one of the few professions that can manipulate a sense of time”

Prof Peter C. Bosselmann
Shanghai 22nd May 2008

“ If that is the case, then the UAE is on Fast Forward”

Grant A Donald
Shanghai 22nd May 2008